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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/713,320

11/16/2000

Toshitsugu Yamamoto

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3564

7590

12/10/2004

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EXAMINER

BRINICH, STEPHEN M

ART UNIT

PAPER NUMBER

2624

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/713,320

Applicant(s)

YAMAMOTO, TOSHITSUGU

Examiner

Stephen M Brinich

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2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 5-8, 14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 9-11 and 16 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/16/00</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of claims 1-4, 9-13, & 16 in the reply filed on 9/7/04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 9-11, & 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ostromoukhov.

Re claims 1-2, 9-11, & 16, Ostromoukhov discloses (Abstract; column 1, line 40 - column 2 line 3; column 2, line 62 - column 3, line 9) an image processing arrangement in which a first signal having a predetermined number of tones (e.g. 256) is converted to a second image signal with a smaller number of tones (e.g. 2). As this process is applied to each pixel, the density level range of a first image signal pixel is determined

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and compared to a threshold value for conversion to a corresponding second image signal pixel. An error diffusion process is then carried out, whereby a correction value is determined from the error between the first image signal pixel value and the second image signal pixel value, and this correction value is then distributed to subsequent pixels to apply a correction.

Further re claims 1-2, 9-11, & 16, Ostromoukhov also discloses (Abstract lines 14-18; column 5, line 61 - column 6, line 6) that the coefficients used in the calculation of the correction value are varied in accordance with variations in the first image signal pixel value. Thus, when two pixels of the first image signal have differing values, the calculating method will change between those two pixels.

Allowable Subject Matter

4. Claims 3-4 & 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

The art of record does not teach or suggest the inversion of the sign of a correction value in accordance with variations

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in the first image signal pixel value in conjunction with an error diffusion process in converting a first image signal pixel value to the second image signal pixel value having fewer tone levels.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chan, Shu, Ohmura et al, Mantell, Metcalfe et al, Tabata et al, and Yamada et al disclose further examples of error diffusion in the conversion of a larger number of tone levels to a smaller number of tone levels.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Brinich at 703-305-4390. The examiner can normally be reached on weekdays 7:00-4:30, alternate Fridays off.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2600 Customer Service center at 703-306-0377.

If attempts to contact the examiner and the Customer Service Center are unsuccessful, supervisor David Moore can be contacted at 703-308-7452.

Faxes pertaining to this application should be directed to the Tech Center 2600 official fax number, which is 703-872-9306.

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Hand-carried or courier-delivered correspondence pertaining to this application should be directed to

US Patent and Trademark Office
220 South 20th Street
Crystal Plaza Two, Lobby, Room 1B03
Arlington VA 22202

A handwritten signature in cursive script, reading "Stephen Brinich".

Stephen M Brinich
Examiner
Art Unit 2624

smb

December 8, 2004